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Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 120

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AUSTRALIA

BROADCASTING COMMISSION TELLS GOVERNMENT MAJOR CONCERNS

Canberra THE AUSTRALIAN in English 31 Mar 80 p 7

[Text] ADMINISTRATIVE problems, staff shortages, lack of funds and an inability to operate "freely and flexibly" are among major concerns listed in a lengthy submission by the Australian Broadcasting Commission to a Federal Government-appointed committee.

In its submission, the ABC also calls for the right to accept paid sponsorship for its programs to compensate for cuts in government funding over the past five years.

The ABC clearly expresses dissatisfaction with many aspects of its operation in a 116-page submission to the ABC Committee of Review, delivered at the weekend.

In the first full-scale review in the ABC's history, the submission deals with matters including the constraint imposed by government departments on its operations, the question of national sporting rights, the "acute problem" of accommodation, the provision of a second radio network to serve rural districts, and the commission's case for operation of national broadcasting transmitters.

Set out in three parts, the submission summarises the ABC's activities, functions and operations; raises a number of issues considered by the commission to be of major importance; and presents 17 recommendations.

The chairman of the Committee of Review, Mr Alex Dix, said yesterday the submission was an important statement of the commission's view of itself and its activities.

Mr Dix said the submission covered several matters which already had been identified by his committee as requiring investigation — for example, the need to increase access for many Australians to ABC programs, the funding of the ABC, its concert and orchestra facilities and its relationship with government departments and authorites.

Major emphasis in the submission is on a lack of funding, with "significant cutbacks" in the ABC's share of the Federal Budget resulting in "an unsatisfactory situation" whereby:

SOME areas have insufficient staff to meet existing workloads.

THERE is a backlog on maintenance of equipment due to a shortage of qualified staff.

THE shortage resulted in a cutback in local production so the ABC's local output had fallen by almost 10 per cent.

SOME areas, in which financial cutbacks reduced the workload, have fewer staff losses and staff cannot be readily deployed because of the specialised nature of their work and because of rigid provisions relating to the establishment of positions and duty statements.

The ABC suggested that such financial shortcomings could be partly remedied by sponsorship, under which contributing corporations would get a credit at the beginning and end of programs. The commission described this as "corporate underwriting".

Its submission said: "The commission is aware that there are large companies in the country with substantial liquid funds and a genuine desire to contribute some part of their profits to the community at large.

"These are the funds which would not otherwise be earmarked for advertising, but which a company sets aside for the aid and development of the community from which its profitability springs.

"It would seem a deprivation for that community if the ABC, with its national reach and freedom from commercial imperatives, were barred from joining with some of the great companies to enrich our society.

"The idea of associating the ABC with large companies prepared to underwrite projects or programs under carefully-agreed guidelines is a positive means of double benefit to the community — first, because it would bring broadcasts not otherwise available and, secondly, because it would help to contain the claim on public funds."

AUSTRALIAN
BROADCASTING
COMMISSION

'Too much control'

The ABC recommended a rationalisation of its obligations to consult the many governmental authorities and agencies with which it now dealt, to simplify its administrative procedures.

Its submission said: "As a statutory authority, the ABC has a continuing involvement with a considerable number of government departments, authorities, statutory corporations and instrumentalities.

"It is the commission's considered view that there is too great a degree of control exerted by other branches of the public sector upon the ABC's day-to-day operations.

"There is a real difficulty in applying government requirements appropriate to a department of government to an independent statutory body such as the ABC, which is part of a highly-competitive industry.

"The broadcasting industry requires freedom, speed and flexibility. These characteristics are not necessarily those of the Public Service ethos."

The ABC said it was difficult to operate freely and flexibly while:

ITS accountability to Parliament had been extended to require it to provide detailed information to various departments and agencies on a range of administrative questions which had little relevance to broadcasting. This required the diversion of staff from more urgent administrative and operational duties associated with the provision of program services to the public.

IT COULD not fill its own staff requirements, because of restrictions applied to it on an even more severe basis than to government departments not engaged in a competitive industry.

THE conditions of service and the rates of pay offered were determined by the Public Service Board and through the processes of the Public Service arbitration system as part of a basket of "Public Service" positions which had, on occassion, limited relevance to the salaries being offered by other employers in the broadcasting industry.

PRODUCTION studios, specialised technical facilities and other operational areas were required to be planned in conjunction with government departments and agencies.

IT WAS subject to the restrictive policies of the Overseas Visits Committee. (The ABC is obliged, like a government department, to seek the approval of this committee before any officer or employee travels overseas on official business.)

The submission added: "The ABC has a responsibility to be accountable for the use and expenditure of public funds. The commission cannot expect, and does not seek, to have total independence without regard to Public Service practices or commercial operations.

"It would be expected that the commission would have regard for the rates of pay or conditions within the Public Service for ABC jobs of a comparable nature. It should be independent of the Public Service Board, and should be responsible for the final decision on the terms and conditions of its officers and employees in the light of prevailing circumstances within the industry."

The ABC also attacked staff ceilings, stating: "The commission believes that the whole question of staff ceilings needs urgent review. They have been applied too severely and their effect on the radio and television services provided to the Australian community, especially the 4 million Australians living beyond the capital cities and large provisional areas, has been counter-productive.

"The imposition of ceilings is in conflict with section 43(2) of the Broadcasting and Television Act, which states that 'the commission shall appoint such other officers and engage such temporary employees as it thinks necessary'."

In its past three annual reports to Parliament, the commission has drawn attention to its reduced capacity to acquire television rights for many international sporting events.

It said: "Of particular concern to the commission is the fact that rights for many major national and international sporting events have been sold to commercial networks, without those networks giving any guarantee of national coverage.

"There have been demands, often vociferously expressed, that the ABC should provide coverage in areas where the commercial networks which have acquired exclusive rights to various events do not or cannot operate.

"The commission cannot agree to its coverage of national and international sporting events being limited to those areas which commercial stations cannot serve.

"The televising of major sporting events to those areas beyond the four largest capital cities has become a matter of national concern. Implicit in all offers submitted by the ABC to sporting bodies is the understanding that live coverage of events will be provided on a totally nationwide network of stations, without interruption."

Domestic satellite

The ABC revealed that it had conducted extensive investigations into the possible application of new technologies, including satellites, to improve its service.

Following the announcement by the Minister for Post and Telecommunications, Mr Staley, that Australia would have its own domestic satellite, these investigations had increased as the ABC and other bodies began the planning stages of the system and its users.

Improved capabilities available with a satellite system would bring to the fore some important issues for the ABC, including:

THE possibilty of a second ABC television service.

THE integration of, and balance between, interstate television networking and interstate television programming.

THE extent to which State-originated programs could be broadcast on a national network.

THE need for additional national and statewide radio services; and

THE potential for extending existing radio services to regional and remote areas.

The ABC said lack of accommodation was another serious problem. "Inadequate accommodation has plagued the ABC almost since its inception," it said.

The problems, said the submission, could be separated into three main headings — the need for specific-purpose buildings, considerations of owning or leasing premises and ineffiencies arising from the dispersal of staff over several sites.

There was also a need for more integration in all but two capital cities.

The submission said: "The ABC occupies 24 sites in Sydney and 16 in Melbourne. While it is reasonable to separate some functions, such as storage of bulk supplies, from the main area of day-to-day activities, the dispersal of staff in so many locations results in delays, costly despatch systems, a lack of flexibilty in re-arranging staff groupings to meet changing needs and, quite often, a sense of frustration among staff and management that can affect staff relations. As well, poor accommodation often leads to ineffective work and poor morale."

It expressed dissatisfaction over control and operation of broadcast transmitters.

According to the ABC, there are too many organisations involved in the planning, design, procurement, installation, operation and maintenance of its studio and transmission needs.

The commission claimed there were undue delays and inefficient use of resources, including professional engineers and other technical staff with broadcasting experience.

"It is essential that the ABC be intimately involved in the planning of new services, and in the extension of new services," the submission said.

"The ABC should not be (as it has been in the past and still is) required to act in a peripheral role when dealing with its own operation.

"In addition, the ownership and control by the ABC of all its broadcasting resources, especially transmitters, would allow precise and up-to-date information to be speedily used, resulting in greater and more effective service to the listening and viewing public."

The ABC devoted three pages to specific recommendations aimed primarily at ensuring it "continues as a great national institution".

Major recommendations include:

SEVERANCE of the power of the Public Service Board over the size and conditions of ABC staff. The commissioners said the PSB link was "inhibiting".

THE 11-member commission be reduced by two.

LEGISLATION to make some events (such as cricket) "events of national interest" and unavailable for exclusive coverage by sections of the media.

THE removal of Telecom's control over transmitters and its transfer directly to the ABC. The commission said this would save money.

LEGISLATION to enshrine the ABC's responsibility for Radio Australia into the statutes (the present status of Radio Australia was unclear, it said.)

THE power to be able to "lift grabs" from its parliamentary broadcasts for news and public affairs shows. (This is now prohibited.)

$95 million in salaries

A SECOND national television network and a second network in country areas.

THE ratio of the ABC's annual appropriation to the Federal Government's total expenditure be increased.

THE ABC determine its own staff numbers within the funds available to it.

A major aspect of the submission was a

detailed account of the ABC's present activities, functions and operations.

This showed that on January 31 the ABC employed 6176 full-time staff and 79 part-time. Salary costs for the last financial year amounted to almost $95 million.

Events leading to the submission began on May 23 last year when Mr Staley announced the Government's decision to appoint a committee to conduct an independent review of the ABC.

Mr Staley said the committee would not only identify problems, but would, he hoped, "offer solutions to maintain the ABC as an essential part of the Australian broadcasting system".

He said the committee of review would examine and make recommendations on the appropriate future objectives, functions, statutory powers and policies of the commission.

It would also review, comment on the effectiveness of, and make recommendations on such aspects as the ABC's relationships with other government bodies, programming policies, funding arrangements, management systems and planning for technological developments.

CSO: 5500

COMMUNICATIONS WORKERS CAMPAIGN AGAINST SATELLITE

Perth THE WEST AUSTRALIAN in English 26 Mar 80 p 61

[Text] Melbourne: Two major unions yesterday launched a campaign against the Federal Government's proposal to set up a domestic communications satellite system.

The Australian Telecommunications Employees' Association and the Australian Postal and Telecommunications Union are distributing 25,000 special newspapers to households in southeastern South Australia and western Victoria.

The paper, called "Satellite Report," claims that hundreds of jobs in the region will be lost if the scheme goes ahead and that the region's television station SES8 could be forced out of business.

'Penalties'

The ATEA's federal industrial officer, Mr Peter Green, said yesterday that far from benefiting people in rural Australia, the satellite would impose immense penalties.

"The system will lead to the centralisation in the capital cities of the telecommunications, television, banking, insurance and finance industries," he said.

"The finance industry would use the satellite to transmit data direct to he head office computers, eliminating many clerical and accounting jobs in country towns."

He said that the satellite could also be used by major Sydney-based television networks to transmit programmes to regional areas to be rebroadcast by unmanned relay stations.

The networks, without having to provide local staff or facilities, would compete directly with the local station at an advantage.

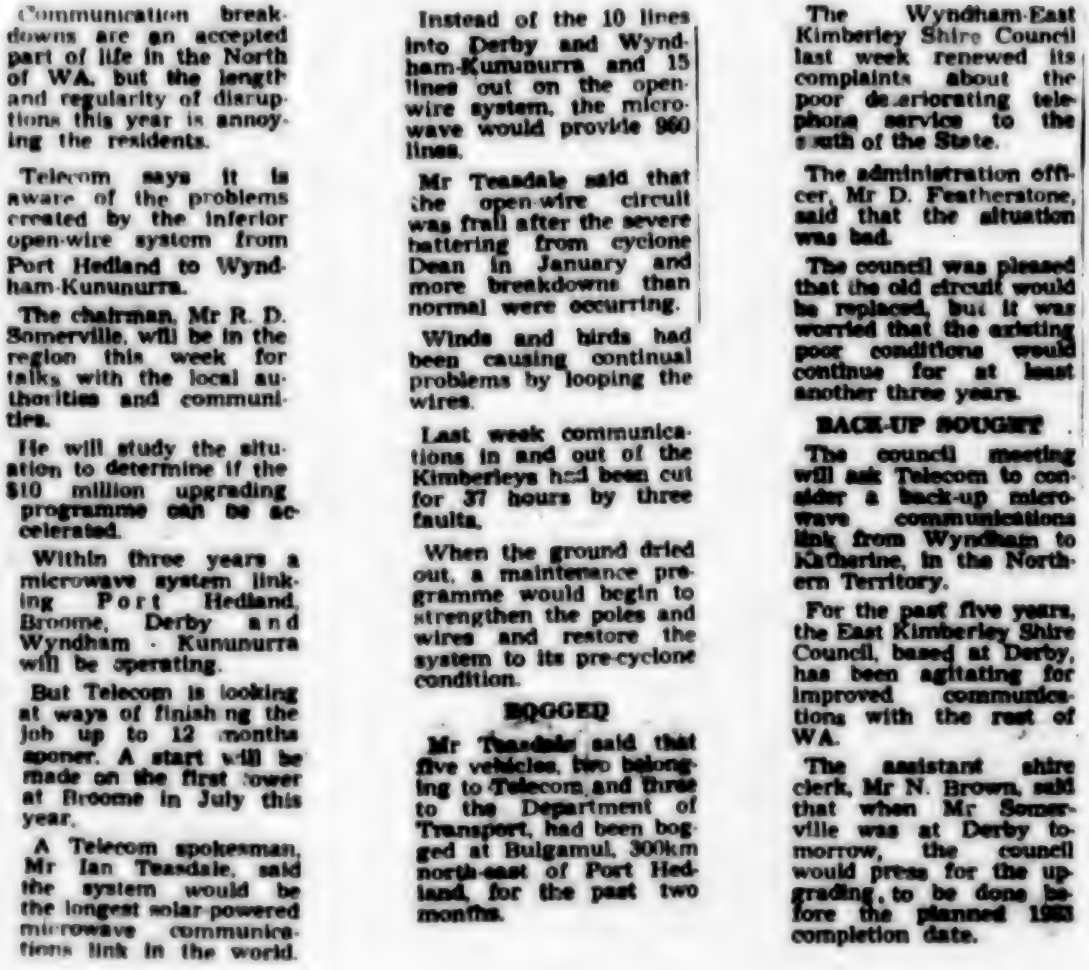
As a result the local company would go to the wall, along with the essential community services it provided.

CSO: 5500

TELECOM TO IMPROVE SERVICE IN WEST AUSTRALIA

Perth THE WEST AUSTRALIAN in English 31 Mar 80 p 35

[Text]



Communication breakdowns are an accepted part of life in the North of WA, but the length and regularity of disruptions this year is annoying the residents.

Telecom says it is aware of the problems created by the inferior open-wire system from Port Hedland to Wyndham-Kununurra.

The chairman, Mr R. D. Somerville, will be in the region this week for talks with the local authorities and communities.

He will study the situation to determine if the $10 million upgrading programme can be accelerated.

Within three years a microwave system linking Port Hedland, Broome, Derby and Wyndham - Kununurra will be operating.

But Telecom is looking at ways of finishing the job up to 12 months sooner. A start will be made on the first tower at Broome in July this year.

A Telecom spokesman, Mr Ian Teasdale, said the system would be the longest solar-powered microwave communications link in the world.

Instead of the 10 lines into Derby and Wyndham-Kununurra and 15 lines out on the open-wire system, the microwave would provide 960 lines.

Mr Teasdale said that the open-wire circuit was frail after the severe battering from cyclone Dean in January and more breakdowns than normal were occurring.

Winds and birds had been causing continual problems by looping the wires.

Last week communications in and out of the Kimberleys had been cut for 37 hours by three faults.

When the ground dried out, a maintenance programme would begin to strengthen the poles and wires and restore the system to its pre-cyclone condition.

BOGGED

Mr Teasdale said that five vehicles, two belonging to Telecom and three to the Department of Transport, had been bogged at Bulgamul, 300km north-east of Port Hedland, for the past two months.

The Wyndham-East Kimberley Shire Council last week renewed its complaints about the poor deteriorating telephone service to the south of the State.

The administration officer, Mr D. Featherstone, said that the situation was bad.

The council was pleased that the old circuit would be replaced, but it was worried that the existing poor conditions would continue for at least another three years.

BACK-UP SOUGHT

The council meeting will ask Telecom to consider a back-up microwave communications link from Wyndham to Katherine, in the Northern Territory.

For the past five years, the East Kimberley Shire Council, based at Derby, has been agitating for improved communications with the rest of WA.

The assistant shire clerk, Mr N. Brown, said that when Mr Somerville was at Derby tomorrow, the council would press for the upgrading to be done before the planned 1983 completion date.

CSO: 5500

AUSTRALIA

BRIEFS

QUEENSLAND RADIO ORGANIZATION--Queensland's commercial radio stations will make Australian broadcasting history today with the launch of a state-wide broadcasters' association. The Radio Broadcasters' Association of Queensland will meet today to ratify the constitution of an organisation designed to make radio more visible in the community. It is the first time in Australia that commercial stations have banded together to improve their image and explain their role to the community. The association's president, 4BC manager Mr Ian Renton, said yesterday radio had been clever in selling its service to advertisers, but not so clever in selling itself to the community. The new organisation, which will open offices in Eagle Street, Brisbane on March 31, is designed to complement the Federation of Australian Radio Broadcasters. Organisers are confident of 100 percent membership from Queensland's 27 commercial radio stations. [Excerpts] [Brisbane THE COURIER-MAIL in English 20 Mar 80 p 18]

BROADCASTING COMMISSION APPOINTMENT--Canberra: A woman agricultural economist has been appointed to the Australian Broadcasting Commission, bringing it to its maximum embership of 11. The Post and Telecommunications Minister, Mr Staley, announced the appointment of Mrs Valerie Michell of the Northern Territory. Her appointment brings the number of women on the commission to four, which is more than ever before. Mr Staley said that since his visits to the Northern Territory last year, he had been considering ways to improve its communications services. Mrs Michell would be able to represent the views of territory residents, and would bring to the ABC her personal experience of remote areas, where broadcasting services were frequently scarce or non-existent. [Text] [Perth THE WEST AUSTRALIAN in English 20 Mar 80 p 46]

CABLE UTILIZATION--Because of Australia's remote geographic position and one half of her telephone traffic is with European countries, the basic cost of a long-distance submarine cable connection is naturally considerably higher than for a satellite connection. Accordingly, Australia, in association with its international correspondents, has processively developed and applied a number of techniques to exploit cable capacity fully. Some of these utilise the fact that the telephone busy hour between Australia and Europe occurs at a different time of day to the busy hour between Australia and North America, and advantage is taken by Time Assignment Speech Interpolcation (TASI). This is a fairly common technique for increasing multiple conversation utilisation of a single channel and is normally expected to give an increase of 2.3 to 1. But between Sydney and Vancouver, an increase of 3.5 to 1 has been achieved and it is believed this can go as high as 4.4 to 1. [Excerpt] [Melbourne THE AGE in English 17 Mar 80 p 12]

TELECOM PROFITS--Telecom earned a profit of $111.7 million in the six months ended December 31 last year. Its business was up 11 per cent. The chairman, Mr R. D. Somervaille, who annouced this yesterday, said the boost in business had ensured about 700 new jobs this financial year. Telecom hoped to bring in early next year a significant cut in some long distance STD charges. Most Telecom services were still priced at 1975 levels, and in some cases they were substantially lower. Mr Somervaille said the profit came after paying $180.6 million interest to Telecom stockholders and the Federal Government and providing $221.1 million for depreciation. Telecom's assets exceeded $7,000 million. "The profit has been ploughed back into our capital program on which $475 million was spent up to the end of December," Mr Somervaille said. [Excerpt] [Sydney THE SYDNEY MORNING HERALD in English 29 Feb 80 p 1]

CSO: 5500

HINDUSTAN CORPORATION TO VENTURE INTO SPACE ENGINEERING

Calcutta ENGINEERING TIMES in English 25 Feb and 6 Mar 80 Supplement p VII

[Text] Satellites, launchers receiving stations and television technology are going to be Hindustan Export & Import Corporation's future areas of activity. Already discussions are underway and new developments are being brought to the notice of Indian scientists.

Mr. K. K. Grover managing director of the company in an interview with "Engineering Times" discussed the interesting developments about to take place. "The Department of Space is designing indigenous satellites for telecommunication, earth resources and surveyances. These satellites will come in the middle of 1980. Although they will be manufactured in India certain systems might have to be imported. This will apply to the corresponding receiving stations as well. I am expecting a collaboration between France and India along these lines."

Hindustan Export & Import Corporation specializes in the export of cotton yarn and the import of machine tools. The Corporation has diversified into special purpose machines for the production of small arms and ammunition and further into powders, explosives and liquid propulsion.

CSO: 5500

BRAZILIAN PROPOSALS APPROVED AT RADIOBROADCASTING CONFERENCE

Rio de Janeiro O GLOBO in Portuguese 13 Apr 80 p 6

[Text] Brasilia--Two Brazilian proposals were approved at the first session of the Regional Medium-Wave Radiobroadcasting Conference which concluded in Buenos Aires last week: retention of the power of existing radiobroadcasting stations and establishment of maximum distances in the order of 4,000 to 5,000 km between high-powered stations on medium wave.

The conference, sponsored by the International Telecommunications Union, will hold its second session in November 1981, when the technical plan for the distribution of channels for medium-wave radiobroadcasting in the American countries will be ratified. This plan aims at the progressive elimination of all interference between the stations of the three Americas.

Brazil is one of the countries with the greatest interest in the approval of this plan inasmuch as it is the number two country in the Americas in terms of the number of radiobroadcasting channels, with over 1,000 stations, being surpassed only by the United States, which has 4,700. In addition, the current agreement was concluded in 1935 and revised in 1940 and is consequently obsolete.

At the Buenos Aires meeting, it was decided that radiobroadcasting stations will continue to operate with the already installed power; however, future stations will operate with a power of 100 kilowatts in the daytime and 50 kilowatts at night. At the present time, the United States and Canada operate with a maximum of 50 kilowatts, while in Brazil there are stations with up to 60 kilowatts (the Ministry of Education and Culture station and Radio Nacional). According to the secretary for radiobroadcasting in the Ministry of Communications, Lourenco Chehab, "the only difference is that those countries use directional antenna systems with up to 12 or 13 towers and that can mean very high power in certain directions, and in very high number."

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CSO: 5500

TELECOMMUNICATIONS SATELLITE TO BE LAUNCHED WITHIN 4 YEARS

Rio de Janeiro O GLOBO in Portuguese 11 Apr 80 p 12

[Text] Communications Minister Haroldo Correa de Mattos announced yesterday that Brazil will launch its first binational telecommunications satellite within 4 years, operating through agreements to be signed with Argentina.

In the morning, he visited the first operations center of the Rio de Janeiro Telecommunications Corporations (TELERJ) in Leblon and later toured the exposition commemorating the first anniversary of the present administration of the company, installed in the Arches Station in the center.

Haroldo Correa de Mattos said that the satellite is planned initially for domestic use to improve television and telephone communications in the country. The first negotiations for an agreement are part of President Figueiredo's agenda for his forthcoming visit to Argentina.

"This program began during the Geisel administration and because of priority projects, it was delayed. We are going to open bids for the purchase of the satellite, resuming the work that is scheduled to be concluded within 4 years with the launching of the satellite," he said.

According to the minister, the basic objective of the project is to improve the telecommunications system, especially in the Amazon region. With the satellite, educational, social and rural telephone programs will be carried out.

"The whole national territory will be in a position to develop telephone and television systems, all that is needed for that being the installation of ground stations. In addition to the technological progress, the TV stations will be within the range of all areas of the country by the simple use of private antennas. In any case, we are in the preliminary study phase."

Haroldo Correa de Mattos believes that "telecommunications are not expanding at as fast a rate as previously.

"The Communications Ministry is following the situation in Brazil. Our companies depend on investments, which are not being made on the same scale as in prior administrations. In 1973 we bought about 1 million terminals; today the number is about 300,000."

As for the National Telecommunications Code, Correa de Mattos explained that it is in the final phase of preparation and will be presented in the form of law. The minister explained that the new legislation will replace that of 1962 "without much change but adapted to today's advances and changes." There will be special laws for cable television and radiobroadcasting that are still being drafted.

TELERJ Exposition

After visiting the exposition commemorating the first anniversary of the current administration of TELERJ, Haroldo Correa de Mattos declared that only "out of malice" could anyone criticize the company.

"No one can deny the improvement in TELERJ's services. This exposition is undeniable proof and only someone with preconceived notions cannot accept this."

The exposition, which was inaugurated 4 days ago, presents different types of telephones, pulse-counting apparatus and apparatus for the cable pressurizing system, leaflets on the services of the company, and reproductions of newspaper ads and articles on the operation of TELERJ, among them several editorials and reports from O GLOBO. City school pupils, technicians and guests who visit the stands are accompanied by company employees who explain the telephone system and its maintenance, using films and slides.

The president of TELERJ, Nelson Souto Jorge, said that the company already has a new image among the public and its own employees. The "discussions with subscribers" carried out periodically by the management of TELERJ are examples of the company's new philosophy, according to Nelson Souto Jorge.

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MICROCOMPUTERS TO HAVE ALL NATIONAL COMPONENTS BY END OF YEAR

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 12 Apr 80 p 28

[Text] Curitiba--Brazilian industry will be producing microcomputers with all national components by the end of this year, and by the end of 1981 the same will occur with the mini and medium-sized computers. The prediction was made by the president of the Brazilian Association of Computer and Peripheral Industries (ABICOMP), Giovanni Farina, who passed through Curitiba yesterday. He complained about the pressures from the multinationals aimed at introducing their own minicomputers in the domestic market, despite the protection assured to the national sector by the government.

Farina, who is also director of the Distributed Information Systems (SID), a company that has a computer factory in Curitiba in a consortium with Sharp, added that the pressures increased substantially in the 3 to 4-month period that coincided with [the gap between] the dissolution of the Electronic Data Processing Coordination Committee (CAPRE) and establishment of the Special Secretariat for Data Processing, when the sector was temporarily unprotected by any regulatory agency. "The multinational companies took advantage of the opportunity," said Giovanni Farina, "to push their products, offering them to Brazilian customers at below-market prices. And the consequences of that are still being felt because many companies delayed their decision to purchase equipment with the expectation that there would be changes in the rules of the game."

Giovanni Farina said also that the multinational companies are actually making sales of minicomputers to companies and then requesting the import permit from the Foreign Trade Department of the Bank of Brazil (CACEX) as if it were a consummated and irreversible thing. "So although the requests have been systematically denied by the government, we do not know how long the resistance to that type of pressure will continue. A time will come when the government will authorize a minimum part of the requests to try to get rid of the pressure. And from then on no one knows what might happen."

But Giovanni Farina expressed satisfaction over the presence of the Special Secretariat for Data Processing as a regulatory agency in the sector, considering that "now the rules are better defined."

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CSO: 5500

TELEBRAS BUDGET FOR 1980 REDUCED 20 PERCENT

Rio de Janeiro O GLOBO in Portuguese 1 Apr 80 p 22

[Text] Communications Minister Haroldo Correa de Mattos said yesterday, after participating in the ceremony opening the Ninth Telebrazil Panel, that this year's budget for the whole Brazilian Telecommunications Corporation (TELEBRAS)--which embraces the Brazilian Telephone Company (EMBRATEL) and the telephone companies throughout the country--has been reduced 20 percent.

With a budget of 68 billion cruzeiros, he acknowledged that there will be a reduction of the programs of the companies connected with his ministry, but he stressed the need to maintain the standard of services as well as the investments necessary for the growth of demand.

He said also that the cuts in the ministry's budget during the last 3 years may lead to technological delay, causing the sector to face again problems it had already overcome.

TELEBRAS Acknowledges Reduction

The president of TELEBRAS, Gen Jose Antonio de Alencastro, said 600,000 telephones had been scheduled to be installed this year, but due to the reduction of the budget for communications it will only be possible to install about 350,000.

General Alencastro believes that the reduction of expansion of telephone lines will not last long because as soon as the Brazilian economy eases--as Planning Minister Delfim Netto promised him recently--the budget will be normalized.

Criticism

"TELEBRAS has cut its ongoing projects by 20 percent so it will be difficult to take care of the big telecommunications customers, such as the Brazilian Petroleum Corporation (PETROBRAS), the Brazilian Electric Power Corporation (ELECTROBRAS), etc."

That statement was made yesterday by the director of the state communications company, Raul Antonio del Fiol, during the Ninth Telebrazil Panel, the topic of which is the situation of the big customers of the sector.

He believes that the current limitation of the company's capability to invest in a public data communications network (which embraces telex, radiocommunications and communications by computers) is going to stimulate the expansion of private networks "resulting in a waste of resources."

Oil

In the afternoon session of the panel, PETROBRAS Engineer Milton Pernasetti stressed that the public data communications network is only one of the alternatives of the company in the communications area.

"We need very reliable circuits, for example, along the oil pipelines, so that orders will be carried out. We do not want to use or set up networks paralleling the public services but we also need better coverage for our private network. An oil pipeline cannot run dry, and refineries and oil fields cannot come to a halt because of a lack of communications."

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CSO: 5500

GUANTANAMO COMMUNICATIONS PROGRESS: TELEPHONE, RADIO, TV

Havana GRANMA in Spanish 4 Apr 80 p 3

[Article by Jesus Mena]

[Text] During his comments at the Public Information Program on 28 November of last year, Pedro Guelmes, the minister of communications, in speaking of the developments in this sector, said: "The growth has been aimed essentially at cities, provincial capitals, localities and new centers of agricultural development in the interior. And that is quite logical, since it has been our policy to bring communications to the places where in the past there was nothing, places with no communications."

A good example of the commitment with which this intention has become a reality is Guantanamo province, where the rapid development of communications in recent years has broken through the isolation in which the pseudorepublic used to keep the territory of our easternmost province.

Just in the area of telephone service alone, an area in which expansion has been most pronounced in this region, in 1978 60 channels with Havana were opened, 60 with Santiago de Cuba, and another 36 with Baracoa, with direct long distance dialing in both directions between Guantanamo and Baracoa, and between Guantanamo and Santiago de Cuba and in just a single direction from Guantanamo to Havana and Baracoa to Havana. Both cities can automatically reach the capital by dialing either 05-07 in the first instance, and 07 in the second. Also in 1978 Guantanamo's new telephone exchange opened, with 3,000 lines and in 1979 another 600 were established in Baracoa, 160 in Caimanera, and about 80 in San Antonio del Sur and in Niceto Perez.

The installation of 150 kilometers of telephone lines during the last 3 years in mountainous areas and in places which are hard to reach opened up communications between Guantanamo-San Antonio del Sur, Guantanamo-Boqueron, Guantanamo-Paraguay, San Antonio-Imias, Felicidad-Palenque, Guantanamo-El Salvador, Guantanamo-Honduras, and Guantanamo-Niceto Perez.

The telephone density, which in 1976-1977 was only 0.56 phones for each 100 inhabitants, is now 0.86 out of a plan calling for 0.94. This figure may be increased in forthcoming years with the establishment of new capacities.

But not all the developments have been focussed on telephone service. Today Guantanamo's 10 municipalities receive the signal of the two national television channels, Channel 6 and Tele Rebelde, and the transmission of color television has been made possible through the installation of the national microwave channel, a project that was completed in 1978, and the installation of two new translators on the hill of Los Guineos, 18 kilometers from the city of Baracoa, and a 5 kW transmitter on the Cueva Arriba hill in Yateras.

Also in 1978 work began on bringing television to the areas of San Antonio del Sur and Imias, where even today the signal quality is poor, due to the mountainous terrain of the area, which disturbs the quality. Work is now in progress to improve the signal quality.

The transmitting power of the national radio stations, Radio Liberacion and Radio Reloj, which are now received here perfectly, was increased to one kW and a one kW transmitter was installed for Radio Progreso, which had not been received in the province in the past. In addition, the power of the provincial transmitter, CMKS, was increased from one to 10 kW.

In the area of postal and telegraph service, the area of the ministry of communications that has been most affected, in which great efforts have been made to have improved service nationally, some considerable efforts were made here, and in the 1977-1979 period a post and telegraph office was in each of the towns of Baracoa, Caimanera, San Antonio del Sur, El Salvador, Palenque, and Niceto Perez.

Nonetheless, we consider it appropriate to mention here that, despite this development and the achievements made in recent years, designed to provide this province with the most modern means of communications, there are some serious problems within the MINCOM [Ministry of Communications] enterprise which is responsible for operating these means of communications in the province.

An example of this is found in the area of postal and telegraph service, according to the latest evaluation made recently, which concluded that "the present situation of services provided is very far from reaching the requisite levels of quality."

Some of the main problems of a subjective nature found in this area are in the rural delivery service, in which correspondence is delivered too slowly, the time schedules for delivery of mails for national and provincial circulation are not met, and the Guantanamo sorting center is not operating on Sundays, as it is supposed to.

There are some serious problems in the telegraph service in sending traffic, primarily because of the poor condition of the secondary network of the province, the work done at the transmitting stations at Guantanamo and Baracoa is poor, and the operators' training is not up to proper standards, primarily at the Guantanamo facility, as well as other factors.

Something similar is happening with the distribution of the press, where just last year 1,228,924 copies of the local paper VENCEREMOS stopped being sold because the distribution did not meet the demand in the towns and because of the poor handling of sales.

This inspection also revealed that the national press, which reaches the province at approximately 0730 in the morning, is received in various towns and facilities 3 or 4 hours later; this delay is not justified by the distances involved.

As we pointed out earlier, the communications workers, along with their union and the political and administrative leaders of the province and of the central organization have done some praiseworthy work in raising these services to levels never before seen in the area. Now they must work to correct these problems so that this region may benefit fully from the achievements brought to the region by the Revolution.

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MINISTER DESCRIBES EXPANSION OF TELEPHONE NETWORK

Tehran JOMHURI-YE ESLAMI in Persian 8 Apr 80 p 12

[Article: "The Minister of Post, Telegraph, and Telephone Says by the End of This Year: 150,000 New Telephone Numbers Will Be Issued Throughout the Country"]

> [Text] We are trying to produce most of the equipment ourselves; Shiraz Telecommunications Factory will produce 70 percent of the equipment.

By the end of the present year, 150,000 new telephone numbers will be issued to applicants throughout the country, Dr Mahmud Qandi, minister of post, telegraph, and telephone [PTT], announced in an interview with PARS NEWS AGENCY. He said: "We also foresee the possibility that by the end of 1982-83 [1361] we will be able to issue one million telephone numbers to applicants throughout the country. Of course, this depends on certain conditions. One of our basic problems is that contracts for building telephone centers were signed with various contractors before the revolution and for the most part the construction has haulted. If the construction problem is not resolved, our plans to issue telephones to the people will not be carried through on schedule. With the cooperation of the Plan and Budget Organization and the Ministry of Economic Affairs and Finance, we hope to find solutions to enable us to carry out the plans on time. If the building contractors are unable to complete these projects on schedule, we will have no alternative but to terminate the contracts."

The minister of PTT added: "If the problem of building telephone centers is not resolved, the Telecommunications Company will only be able at the present time to issue 600,000 telephone numbers to applicants within three years. The remaining 400,000 numbers will be issued depending upon the growth of domestic industries and foreign imports. Also, we must increase manpower and create operational facilities in the provinces so that we can achieve our goal of one million new telephone numbers within the next three years."

Dr Qandi added: "During the last three months of 1979-80 [1358], 35,000 new telephone numbers were issued to applicants throughout the country."

Asked about transferring telephones from one area to another at the present time, the minister of PTT said: "When the technical facilities exist, this can be done more speedily in some areas, but because of the large number of applications for telephone transfers in certain areas, there is a waiting list."

Concerning the development of telephone facilities in relation to existing applications, Dr Qandi said: "The reason most of the applicants are on waiting lists is the lack of telephone centers and a network of telephone cables. To expand the telephone network in responding to the needs of the applicants, both of these, the cable network and telephone centers, must be provided. In the areas where there is a shortage, it is mostly because of a lack of these two factors. Throughout the country we have certain areas with telephone centers but in order to make use of them we also need the cables. In the 1980-81 [1359] accelerated project, we have planned for the expansion of the cable network in these areas."

Concerning the expansion of telecommunications throughout the country, Dr Qandi said:

"For this expansion we need equipment, some of which must be imported from abroad and some of which can be produced domestically. Our present problem is not how to import the equipment but rather the general economic and industrial policy of the country. We have certain projects which require certain steps to be taken. In telecommunications, the basic problem areas include telephone centers, cables, and our radio microwave production handled by the Shiraz Telecommunications Factory which is about 60-70 percent self-sufficient."

Dr Qandi added: "Our policy is to produce domestically as much as possible and to plan our projects in accordance with domestic production in order to both strengthen domestic production and to get closer to our goal of industrial and economic self-sufficiency. Through the use of experts in various industries and universities, we are trying to reduce the dependence of factories on imported equipment. Presently the Telecommunications Research Center is studying ways to enable us to set up domestic telecommunications industries."

The minister of PTT, concerning the production of electronic telephones units using the facilities of the military electronics industry's factory in Shiraz, said: "We are working with this factory and we have asked them to study their capacity to produce electronic telephone units in Iran; this way, the revival of the electronics industries of the country can begin. We hope that the Iranian electronics industries will begin production, especially of electronic telephone centers." In the continuation of this interview, on the subject of employing foreign experts, Dr Qandi explained that at present essentially all the work of the Telecommunications Company is carried out by Iranian employees. Only about 10 persons of the 32,000 employees are employed by the Telecommunications Company from the Philippines, Japan, and Germany because of their special skills; whereas, before the revolution more than 1000 foreign employees, engineers, and technicians worked for the company. Concerning the omission of telephone wiring charges in Tehran and provincial cities, Dr Qandi then said: "According to an edict from the ministers telephone wiring charges were dropped after the victory of the revolution. Since that decision, no funds have been taken from applicants for this purpose. But in previous years, about 40,000 rials were taken from each applicant to cover this cost. These people are now asking for refunds, but this issue must be taken up by the Office of Financial Affairs of the Telecommunications Company and the general meeting of the shareholders of the company. Presently, in any case, no refunds will be paid before the approval of the proper authorities is given."

Concerning the flood damage to the telephone system in Khuzestan, the minister of PTT said: "Because of water leaks in the telephone cables and because these cables are worn out, the telephones of many customers in Ahvaz, Abadan, and Khorramshahr have been cut off. Through the efforts of the technicians of the Telecommunications Company, these telephone cables will be repaired. This company has also proposed a project to renovate and reconstruct the cables in Ahvaz, Abadan, and Khorramshahr. We hope to set the renovation operations in motion in the near future."

Dr Qandi added: "In the same area, one of the microwave towers near Ahvaz was blown up and destroyed by counterrevolutionary elements. The authorities have taken steps to reinstall it and we hope that within the next two or three weeks the tower installation operation will be completed and the communication of Abadan and Khorramshahr with other parts of the country will be restored."

In the continuation of this interview concerning speeding up the postal service, Dr Qandi said: "Efforts will be made to speed up domestic and foreign mail through coordinating airline schedules with those of the postal services. Also, the mechanized postal center will begin temporary work soon and after a six-month training period distribution will speed up."

Dr Qandi added: "Many of the letters take a long time to reach their destinations because of the inaccuracies in or illegibility of addresses. We hope that by drawing people's attention to this problem the mail will reach its destination faster. The development of postal services depends to a large extent on the development of roads and highways throughout the country. Hopefully, with the development of roads the postal service will also develop and improve, and letters and packages will arrive at their destinations in the quickest amount of time."

Concerning the publication of new commemorative stamps, the minister of PTT said: "We intend to print stamps with pictures of Islamic and national philosophers, scientists, and personalities to commemorate their anniversaries. In the past commemorative stamps were few, but presently the number has increased several-fold so that people can use these stamps which have cultural and revolutionary aspects." In conclusion, the minister in reference to public telephones being out of order said: "Because of the limitations of the telecommunications facilities and public telephones, we ask the people to cooperate in taking care of these facilities. And if they see anyone who intends to vandalize these telephones or mailboxes, they should report them to the proper authorities."

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ACTIVITIES OF NEWS AGENCY REPORTED

Tunis LA PRESSE DE TUNISIE in French 21 Mar 80 p 2

[Article by Larbi Chenenaoui: "TAP: A Messenger for Modern Times"]

[Text] From messenger riders, carrier pigeons to news agencies. Then development became irrevocably decisive. In short it is only a question of inevitable evolution. The press agencies, as well as the messenger riders and the carrier pigeons are assuredly the result of a stimulating action characteristic of human societies: the need to communicate.

The news or information agency proves to be, as much as it can, a real source of information in regard to the technical arsenal which is at its disposal and especially to the progress of telecommunications which has removed the major obstacle to distance.

In spite of the filigreed presence of the news agencies in the field of information, which thanks to radio, television and newspapers succeed in reaching us here, actually we know very little of news agency mechanism and its function, which is covered by a rather heavy shadow.

In fact, what is a news agency, how does it function and where does it get its information? TAP [TUNIS-AFRICA PRESS AGENCY] is an example which permits us to understand the mechanism of the "Information enterprises."

Established in 1961, it is the "alma-mater," the foster mother, the TAP agency, which feeds the mass media tirelessly.

After almost 19 years of existence it seems to us high time to recognize the value of the work accomplished by this agency.

Nineteen Years After a Perfect Control of the Wheels of Information

After 19 years of existence this institution has seen its profile evolve many times in the image of the large agencies. Its present profile bears witness to its health, that is to say, the fact that it controls technical inventions and methods of information which continue to improve in the course of the years.

The internal organization is constituted as follows: a president-director general [PDG] whose name is Hedi Annabi who is at present a deputy director general.

An Administrative Council comprised of 11 members including the PDG. These are the three layers of which the TAP management is composed, otherwise called the executive branch.

As all other modern journalistic institutions, TAP proceeded in 1976 to reorganize its editorial staff. At the present time it includes two desks, national and international, who share the work according to the nature of the subject.

The National Desk ensures the collection, processing and distribution of national current events.

On its part the International Desk insures the collection, processing and selection of telegrams. In this connection selection does not quite imply censorship but human obligation; it is not humanly possible to distribute everything due to the fact that the number of international telegrams is too large.

The International Desk is tied in with national and international agencies. In addition it has four offices, Paris, Bonn, New York and Brussels.

27,000 Words per Day for the Current Events Service

The National Desk collects its national information in a roundabout way from its regional offices established in Sousse and Sfax, in addition to its correspondents who operate in each governorate.

The Sousse office is interested in the activities of the governorates of Sousse, Monastir, Mahdia and Kairouan. The Sfax office covers Sfax, Sidi Bouzid and Gabes regions.

In regard to this panoply of men and equipment covering all the Tunisian territory the TAP agency controls national news and communicates it to the mass-media to be rationed out--incidentally, the principal organs of the Tunisian press participate in TAP's capital, (TAP being a limited company). These organs are TAP's "daily and regular customers." In addition, if a national agency or a brother and friendly country wishes to receive information on Tunisia, TAP is only too happy to furnish it.

For the purpose of achieving better control, TAP is planning to establish other regional offices without delay.

The National Desk is subdivided into three offices, always according to the nature of the subject--it should be noted that national current news is not only political.

The Current News Service. This service "absorbs" the greatest part of the manpower. It employs 50 newspapermen. Its duties consist essentially in covering the movements of important Tunisians or foreign dignitaries visiting in Tunisia. But its work does not stop there. The 50 newspapermen are called upon from time to time to investigate the activities of some sectors. In addition to the 50 newspapermen, the current news service calls upon regional correspondents when it is necessary to cover one or more regional activities. The current news service uses 27,000 words daily in the Arabic and French languages.

Economic and Social Service. It maintains a daily circulation service for its subscribers, such as ministries in the "technical" field or banks, and finally large national enterprises.

This service issues money order telegrams, and other transactions, etc, in the French language and uses 10,500 words daily.

The Sport and Cultural Section "covers" cultural living and sports events.

As mentioned above, the National Desk includes three services.

A Truly National Library

We found it useful to integrate this service in the National Desk while it is not really a part of it.

When one knows that this service is the sole repository of archives-photos in Tunisia it becomes evident that the great quantity of archives establishes it as a truly national library. It preserves national news. In addition it can claim that it is financially self-sufficient in the sense that it commercializes its production. In fact, it sells photographs upon the request of national enterprises or ordinary citizens. This service employs about 20 people, photographers and laboratory technicians. It subscribes to an international photographic service which sends them photographs through the Belina Telephoto Service. To prove that this service is very much in demand it should be noted that during and after the Arab summit which took place in Tunis, it sent photographs to the entire Arab world.

A Daily Selection Among 3,000 Telegrams

The task of the International Desk is to collect, select and process international information and it is made up of three different services.

The International Information Service distributes an average of 300 telegrams daily (in Arabic and in French).

This amounts to 45,000 words daily. It should be noted that these 300 telegrams are selected among approximately 3,000 telegrams. Accurate selections are at stake. First the policies of the country, second the quality of the information. If the same information is received from different agencies, priority is given to the national agencies. In more concrete terms, if information concerning Algeria, for instance, arrives from several agencies, of which one is from Algeria, the Algerian information service has priority. The reason for this priority is easy to understand: no one speaks better about Algeria than the Algerians themselves.

TAP has established relations with all the large international agencies and with most of the national agencies. TAP has at its disposal one of the most compact networks in the Third World in relation to the number of its sources. In other respects the international desk is supplied by the TAP offices in Paris, Bonn and New York, and by its permanent correspondent in Brussels.

The Maghreb "MAG" Service

It ensures a daily service of 15 telegrams in the form of daily bulletins. This service was created for the noble purpose of making sure that Maghrebi information would be issued by the Maghrebis themselves.

TAP is connected with MAP (Morocco) and APS (Algeria) by a direct line. Consequently, information is circulated very rapidly.

"Pool" Service

This service which is within the competence of the International Desk was created in 1975. At the beginning it only had three newspapermen. At the present time there are about 10. Its mission consists principally in receiving and distributing information from the non-aligned countries.

But first what is the pool of the non-aligned?

The object of this pool is to promote the exchange of information between the member countries for the purpose of disengaging themselves from the hold of the large agencies. It was decided to establish a service entirely dedicated to the pool in each agency of a non-aligned country.

A salient feature characterizes this "pool" service, that is to say that all information must emanate from a national agency. Isn't this a decisive step in the new order in connection with information?

TAP's "pool" service transmits telegrams in three languages (Arabic, English and French), it receives telegrams in several languages. It distributes 20 telegrams per day in each of the three languages mentioned above.

12,000 Words Daily

Thanks to its various sources (in Tunisia and abroad) TAP produces 120,000 [as published] words daily (all services included). Being the main purveyor of information in Tunisia, TAP does not intend to break with its characteristic traits: objectivity, as far as it is possible, is the effective, balanced and responsible contribution to complete information, as much as it can be done.

However, although a modern establishment, TAP is not only one-sided. Other sides apparently contributory constitute an indispensable propensity advantageous for a newspaper office: the technical side, under the form of machines (telex and radio) allow reception and distribution. The "documentary" side ensures a maximum of honesty and vitality to production, and finally the social side, which is the principal incentive of its 300 employees, of which 140 are newspapermen.

Technique of the Information Service

TAP distributes its information through the gigantic network of the televiewers: 150 machines in Tunisia, 7 machines in Paris and 5 machines in Bonn. Exchange of information is made in duplex (2 lines) or multiplex.

TAP has at its disposal direct lines via cable with some agencies as follows: APS (Algeria), MAP (Morocco), MENA (Middle East) via our offices in Paris, SPA (Saudi Arabia), IPS (Rome) for coverage of the non-aligned countries.

In addition, a liaison via radio is established with the following agencies: MENA, TASS, WAM (Arab Emirates), ADN (German Democratic Republic), TANJUG (Yugoslavia), CTK (Czechoslovakia), AGERPRESS (Romania), XINHUA (Republic of China), AFP (received from Cairo in Arabic), REUTER (in Arabic from Beirut), GNA (Gulf News Agency), JNA (Jordan), KUNA (Kuwait). Three bulletins are distributed by TAP: a daily bulletin in Arabic destined for the Middle East; a daily bulletin for Central Europe and Eastern Europe; and a daily bulletin for Western Africa in French and in Arabic.

Documentation Service: To Help Newspapermen and Enterprises

The work of the Documentation Service, or rather the Sub-Directorate of Documentation and Studies consists in acquiring information when large national or international meetings are held (summits, conferences, etc), and to establish a solid documentation in Arabic and French. Apart from the telegrams, the conversions of the documents between the two languages is not automatic. It is true that national takes the lion's share.

However, the service gives a proper place to the documents concerning the Maghreb, the Arab world, Africa, Europe, America, Asia and the international organizations. Moreover, complete and detailed biographies of important personalities are available in this service.

This service comprises collections of newspapers, magazines and archives, and a reading room is also available. It publishes two reports: a monthly documentary report, and a weekly report covering the chronology of principal national events (in Arabic and in French).

This service is very much in demand. "SVP" was established for the sake of promptness; which means that requests by telephone can be answered immediately. Instant information, that is the motto of the service.

Who can be a "client" of this service?

Primarily it must be mentioned immediately that the documentation service is very valuable to the administrations with which it maintains permanent contacts. The first "client" indisputably is TAP itself. The other administrations are second. Thus an "exchange" of information marks the relations between the Documentation Service and the above. As an example, the office of tourism has recourse to the Documentation Service to inquire about certain information. Per contra the Documentation Service calls on that office to obtain statistics on Tunisian tourism.

The Premises: The Only Dark Shadow on the Picture

In 1977 TAP received the "Prize for Social Progress." This prize is awarded to the organization which has created the best working conditions. This prize recognized TAP's efforts which were geared to the social conditions of their staffs. The profit-earning capacity of any human effort, the productivity of each enterprise, depend on the state of the "producers'" health. In this connection TAP organized a Social and Medical Service whose duties are to take care of the employees' health and solve their problems. This service is as indispensable as any other service. Insurance takes care of any medical expenses within the limits stipulated by the law. The "Credit Union" grants loans to any requestor who wishes to buy a house or land. To this end, TAP has helped to establish a construction cooperative, "The Mansoura" which has acquired some land on which to build 30 villas.

As any other institution under development, TAP still has some gaps to fill. The building in which the various services are housed is rather decrepit.

In addition to being too small for the full use of our machinery, it is damp. When one knows that dampness fades and destroys written documents and photographs one realizes how dangerous it can be for the Photographic Documentation Service. In our opinion it is time to help TAP build a modern building which will be compatible with its activities. Any project of modernization for TAP must take the site into consideration. At the present time, three-fourths of the budget is "absorbed" by the employees. This fact does not help in the rapid development of our national agency. In spite of it all, TAP is in the process of being renovated. Soon the decrepit machinery will be replaced by less noisy machines. What is more, TAP plans to enter fully into the computer era. Two computers are on trial already. They will soon be integrated into the National Desk.

Speed and accuracy of information; such is TAP's motto.

Since TAP has never been proved blameworthy, the obstacles which stand in its way must be removed as soon as possible, in order for it to attain the maximum effectiveness.

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CSO: 5500

BRIEFS

COOPERATION OF TAP-GNA--A direct telex line in duplex connecting the TUNIS-AFRICA PRESS AGENCY to the Gulf News Agency (GNA) became operational on Tuesday. The realization of this project is within the framework of the extension and reinforcement of cooperation in the matter of information between the Arab Maghreb countries and the Gulf countries, in a general manner, and between Tunis, seat of the Arab states, and the Gulf countries in particular. We wish to point out that the GNA agency includes the following countries: Saudi Arabia, Kuwait, Bahrein, Iraq, the United Arab Emirates and Qatar. Its seat is in Bahrein. It was established on 7 June 1976 following a meeting held in Abou Dhabi by the ministers of information of the six countries. [Text] [Tunis LA PRESSE DE TUNISIE in French 20 Mar 80 p 4] 7993

CSO: 5500

DETAILS ON NEW CENTRAL P & T BUILDING GIVEN

Abidjan FRATERNITE-MATIN in French 28 Mar 80 pp 1, 8-9

[Excerpts] INTELCI [International Telecommunications of the Ivory Coast] celebrated its tenth anniversary yesterday. The year 1980 marks a particularly important phase in the life of this company, whose capital is now 100 percent Ivorian owned. The French Cable and Radio Company, our partner from the earliest days, has now agreed to give up its shares.

Continuing its large investment program, the Ministry of Posts and Telecommunications has undertaken the construction of a prestigious tower that will bring together the Ministry's technical equipment and central departments: Postel 2001, a bold architectural work.

Posts and Telecommunications are one of the public sectors experiencing the greatest activity in recent years. In fact, the 5-year program for 1976-1980 provides an investment program of 70 billion CFA francs for that department alone, thereby providing it with the possibility to make up for lost time, for the Posts and Telecommunications are part of the basic infrastructure indispensable to the economic development of a country.

The Postel 2001 building being built on the Plateau for the purpose of bringing together the different services and technical facilities now scattered throughout the capital is without a doubt the most spectacular investment in the ministry's program. With a bold architectural style, this building that will overlook Abidjan could be the symbol of a challenge taken up by Ivorian Posts and Telecommunications. Kone Bangali, who heads the Ministry, has stated that "the development of Posts and Telecommunications is only beginning and the effort undertaken during the 1976-1980 Plan must be continued in order to provide Ivorians with telephones and radios and endow the country with modern and effective communications media in keeping with its development."

Scattered throughout the capital and furthermore, occupying rented offices that are sometimes very costly (two floors of the Alpha 2000 building), the different departments of the Ministry of Posts and Telecommunications undeniably had to be brought together for greater efficiency. Moreover, the Plateau telephone central had reached the saturation point and a search began for a construction site for a new central. There was also the problem of a facility for a new automatic international transit center. Finally, it was necessary to install the antennas for a new transmission center for the national microwave relay system.

Between the French Embassy, the SCIAM [expansion unknown] building and the Stabilization Fund, the Ministry of Posts and Telecommunications had a piece of ground that was not very large (4,000 square meters), but it was very advantageous because of its central location. In order to reconcile the size of the lot with the Ministry's needs and technical demands, the idea of a tower was adopted because it could accommodate technical facilities and central departments of the ministry.

Features

The project was entrusted to architect Pierre Fakhoury (Building Design Office) and subsequently became a most original architectural work.

On the underground level, the building uses the entire lot. Consequently, the second basement will accommodate both a parking lot for 250 vehicles and the telephone centrals including: an electronic urban central with a capacity of 60,000 lines; and an international transit center with 3,000 circuits.

The first basement level will be used for offices, some of which will have natural lighting because of landscaping. There will also be an administrative restaurant seating 450 and a cooperative for personnel.

The ground floorwill have an entry hall with a reception area and there will also be a post office providing all the usual services (postal boxes, telephone booths, telex, a BIPT [expansion unknown] window, and so on). On the mezzanine, personnel will have a library and an exhibit hall (equipment and philatelic).

All central departments will be located on the first to the 23d floors. Each level will have 880 square meters of office area. Movable partitions will make it possible to modify the arrangement of offices.

The 24th floor will be reserved for reception rooms.

Technical facilities will be located on the 25th floor, with the INTELCI Transmission Center.

The top floor, 26, will have a conference hall seating 190.

Finally, at the very top of the tower will be technical facilities and antennas.

Architecture and Sophisticated Equipment

Eight elevators, a safety system in keeping with the most recent standards (various smoke detector devices that automatically set off the system), three powerful generators to back up the electronic equipment: Postel 2001, with its 26 floors, meets the strictest regulations for tall buildings. Among its features is the document conveyor commonly known as the "pater noster," a piece of equipment very necessary for the vertical circulation of information in such a building.

Costing an estimated 10 billion [francs], not including specific equipment, the building and its technical equipment were made possible by a 4.8-billion loan granted by a pool of local banks headed by the BICICI [International Bank of Commerce and Industry of the Ivory Coast]. INTELCI, whose Transit Center is included in the building, has contributed 1.2 billion to the investment, with the Office providing the rest of the financing.

The project has been entrusted to the Directorate for the Supervision of Projects (DCGTX), which ensures the overseeing, direction and coordination. The construction of Postel 2001 is under the supervision of SOCOTEC [Technical Supervision and Construction Engineering Company] with regard to safety and decennial guarantees. Construction itself has an original solution, being entrusted to different enterprises in separate installments, with 20 construction crews. The frame work (current phase of construction) is in the hands of SETAO [Engineering and Construction Company for West Africa].

When questioned about the technical limitations presented by this unusual work of architecture, Mr Cesareo, director of the DCGTX, explained that "this round-shaped tower is of a more complex structure than a rectangular building would be. One of the most difficult parts of the project remains the sliding wall, which was the subject of very specific tests in a wind tunnel (wind resistance, tests for water-tightness) using a scale model with two levels.

"Another special feature of the construction stems from the fact that it involves large technical facilities requiring good coordination of equipment.

"Construction will take 28 months for 32 levels. We must not waste any time."

21st Century

Postel 2001 will house nearly 1,500 persons (employees and visitors). One may therefore deplore the small parking space (250 vehicles), which in our opinion will be quite inadequate, considering the extreme congestion of the area. An additional underground level could have been provided for with paid parking available to everyone. But since this was not the case, this area, already the scene of so many traffic jams, will experience even greater problems.

On the other hand, the project brings together many social services: a restaurant, cooperative and library, facilities for personnel that too frequently do not exist in the Ivory Coast. By including them in its new facilities, the Administration sets an example of social progress that should be followed by all employers.

11,464
CSO: 5500

GROUND STATION INAUGURATED IN BANDUNDU

Kinshasa ELIMA in French 2 Apr 80 p 7

[Article by Odio-Onw'Osang: "Inauguration of Bandundu Ground Station"]

[Text] Saturday at 1400 hours, more than 70,000 people had already gathered around to observe the inauguration of the ground station. The symbolic ribbon was cut 2 hours later, at 1600 hours.

Before arriving at this long-awaited concluding ceremony, several dignitaries, in turn, gave speeches in connection with the event. The regional commissioner was the first to speak. In his address, Citizen Alemo Longwama, on behalf of the 3.8 million residents in his jurisdiction and himself, thanked the chairman-founder of the MPR [Popular Movement of the Revolution] and president of the republic for this valuable gift given to the revolutionary people of Bandundu on the eve of the 20 May festivities. The regional commissioner also stated that he was taking it upon himself to guarantee the safety of the ground station.

Citizen Mamputu Mani, director and head of telecommunications-network projects, in turn, gave technical information on this great accomplishment of the second republic.

To be precise, the Bandundu ground station is located at 3°19'41" latitude south, 17°22'45" longitude east and 316 meters altitude, being an especially favorable site for this domestic network. "For," he stated, "it is the only station which is in the heart of a city." It consists of a parabolic Cassegrainian antenna 14.5 meters in diameter, hot parametric amplifiers for reception and a 3 kW Klystion for emission of a radiogram channel, radio-television and other service channels, a hertzian band connecting the station to the ONPTZ [Zairian National Postal and Telecommunications Service], and a 1 kW television emitter connected to an antenna 45 meters high, making it possible to cover an area of 5,500 square kilometers. Thus, the residents of Mushie, Nkonkia and Bendela, for example, will be taken care of in this first phase.

With regard to power, the station is linked with the SNEL [National Electric Company] and aided by a 175 kva generating set. In the future, with the completion of the final phase of this equipment and thanks to its good geographical position thus comprised in a vast network, the project will include 13 ground stations, 34 television emitters representing a total of 100 KW and more than 40 hertzian bands directed from the ground stations to the general post office, radio and television production centers and neighboring cities, totaling a distance of more than 1,000 kilometers.

To achieve this network, Zaire is leasing a broad-band 36 MHZ repeater from the Intelsat IV satellite. Currently, the Bandundu antenna, like all the others, is pointed toward the satellite located at 36,000 kilometers above the Atlantic Ocean at 332.45° longitude and 0° latitude.

In addition to the services for which it is intended, other practical uses are also possible. For example, banks, hospitals, UNAZA /National University of Zaire/ and various companies can also use this aid through the location of the circuits involved.

Thus, for UNAZA, for example, a simple properly adapted system can make it possible to introduce rapid televised teaching in the country's large university centers. For example, a Bandundu surgeon can direct a surgical operation taking place in Kinshasa, and the like.

These explanations of a technical nature were immediately followed by the cutting of the symbolic ribbon representing the ground station, a ceremony presided over personally by Citizen Elebo Ma Ekonso, commissioner of state for national orientation, culture and arts, in the presence of all those who were invited. Public rejoicing followed the ceremony.

8568
CSO: 5500

BRIEFS

NORDIC COMMUNICATIONS PACT--Oslo, 8 Apr--An agreement on planning and development of telecommunications among the four Nordic countries, internally and externally, will in the next 10 years save the Norwegian Telecommunications Administration 33 million kronor. For Norway the agreement means that there is no need for more underwater cables to Denmark because the increase of that external traffic will go through Sweden. Possibilities are, however, considered for a Nordic sea cable to Holland. The increased cooperation will not lead to reduced rates, but in the long run it should limit the rate increases, according to the Telecommunications Administration. The agreement is the most all-inclusive Nordic telecommunications pact ever reached. It is the first time that Iceland has participated in this cooperation. Overall in the Nordic countries the agreement is expected to save 150 million kronor in the next 10 years. This cooperation means that the Nordic countries will no longer pay fees for the conduct of international traffic, but will divide up the developmental and operational costs at an annual settlement. [Text] [Oslo NORGES HANDELS-OG SJOFARTS-TIDENDE in Norwegian 8 Apr 80 p 6] 9287

FRANCO-GERMAN SATELLITES TO BE BUILT--Bonn. The agreement to have two radio-television satellites built by a Franco-German consortium should be signed next month, it was learned in Bonn on 3 March. The economic daily HANDELSBLATT published the major outlines of the definitive project that has been presented to France by the Federal Republic of Germany. According to this document, the coordination of the entire project will be placed under the direction of the West German firm Messerschmitt-Bolkow-Blohm, while the leader of the group of companies which will build the payloads of the two satellites will be the French firm, Thomson-CSF. The project management will be based at Cologne. The director will be German and the deputy director will be French. It will be controled by a 50/50 Franco-German government board that will have to make all decisions unanimously. 54 percent of the work will be done in the FRG and 46 percent in France. The total cost of the program is estimated at approximately 600 million marks (1.4 billion francs), with each of the partners financing half. The two satellites are to be launched in 1983 by the European rocket Ariane. [Text] [Paris AFP SCIENCES in French 6 Mar 80 p 12] 7679

CSO: 5500

AGREEMENTS SIGNED WITH INDIA ON TELECOMMUNICATIONS COOPERATION

Paris ELECTRONIQUE ACTUALITIES in French 21 Mar 80 p 15

[Article by D. Levy: "After Mr Segard's Visit to India; PTT [Postal, Telecommunications and TV Broadcasting] Cooperation Opens the Door to Many Industrial Programs"]

[Text] Close cooperation, offering significant industrial breakthroughs, has been implicitly contained in the agreement protocols recently signed by Mr Segard, secretary of state for PTT, at the end of his stay in India. The Indians are interested in practically all the sectors coming under the PTT's authority, whether they be in the area of postal services, telecommunications, or TV broadcasting. Among the programs most likely to be implemented soon are provisions for three temporal transit stations, which could open the door to a system of 300 to 400 transit stations, industrialization of an electronic self-commutator, derived from a French satellite station; and plans for a network of frequency channels, which will take shape after the installation of a 2 Gigahertz link.

Following Mr Giscard d'Estaing's trip, Mr Segard's recent visit to India, along with an industrial delegation including, especially, Messers Le Peigneux (Thomas-CSF), Marie (SAT), Montjean (CIT-Alcatel) and Lamour (Acome), benefited from a particularly cordial atmosphere, which promised a favorable continuation of industrial relations. Besides the optimistic political context, it actually seems, on one hand, that the new Indian Government has decided to embark on a vast system of telephonic equipment and, on the other hand, that the government might be inspired by the French model of rattrapage [translation unknown] and rapid switching toward the temporal.

That favorable situation does not, for all that, mean that French industry will gain a decisive advantage. Our administration's activity is limited to setting up a framework for cooperation, studying with its Indian counterpart the equipment essential for its needs, and possibly defining specifications. The manufacturers will have to take it from there. Certainly, the high level of research in India must be taken into consideration, but its difficulty in reaching the stage of industrialization must also be recognized. Thus, it is a question of technology transfer, which involves agreement between the French and Indian manufacturers.

Telephone Centers and Frequency Channel Networks

The protocol for cooperation in telecommunications envisions the creation of a working team made up of representatives from the French and Indian PTT administrations. This team, which will meet two or three times a year, will study the programs in which the Indians are most interested (rural telephones, commutation, transmission).

First, it was decided to study jointly (at the CNET [National Center for Telecommunications Studies] level, and that of the Indian equivalent) an electronic self-commutator for the rural areas, derived from the French satellite station, but adapted in India's needs (with a capacity of about several dozen lines). A clause was also provided which related to the export of this product to the Third World countries.

The Indians are interested in another basic product--the transit station. An appeal for international support was made in regard to equipping three stations. To carry out this operation, which should begin in a few weeks, it seems that CIT-Alcatel is in an especially good position, with its "E-10." Beyond this initial order, a huge market for 300 or 400 stations should arise....

With only 1.7 million telephone lines for 650 million people, India thus seems to have decided to get involved with an enormous system of rattrapage. In that respect, it appears to be tempted by the French "model. It is also thinking of skipping directly from the Indian style "Crossbar" to the temporal....

As for transmission, India's needs for cables are considerable. By coming back with a 50 million franc contract, despite sustained American efforts, Acome demonstrated that even a small company could succeed in India. The country likewise has good potential for frequency channel networks. That is why the French PTT is going to finance, along with the ITU [International Telecommunication Union] the installation of a numerical 2 gigahertz (and 2 megabits/second) link, to be set up by SAT, thus permitting the Indians to become familiar with numerical frequency channel networks.

Considering the great significance of India's needs, local industrialization of all these systems is essential. However, due to the urgency of these needs, a direct purchase phase is not out of the question.

From TV Broadcasting to Videotex

In the field of postal services, India appears to be less interested in sorting centers--it already has Japanese equipment--than in the computerization of postal checks (the system does not exist in the country) and savings bank books (60 million accounts are handled manually!). In this area, also, India has revealed its desire to be inspired by the French models. Again it will be up to our manufacturers to make advances along the way opened up by the administration.

Regarding TV broadcasting, the French delegation noticed a change in attitude in India's policy. Whereas up to now black and white educational programs have had priority, the new administration has openly indicated its intention to launch into color television. Let it be mentioned that the Germans have already gone after the Indian market and have offered equipment in PAL [expansion unknown]. At the end of Mr Segard's visit, it was decided to send a SECAM [sequential memory color] million into India.

The Indians also expressed interest in direct satellite television, (the "TDF 1" system will be followed with attention), and cable television, whose combination offers wide possibilities.

Finally, videotex has also commanded the Indians' attention. Experiments in Sanskrit are going to be presented with the "Antiope" (network TV) and "Teletel" (telephonic network) systems. These kinds of equipment involve three types of application in India: subtitles for use in educational programs (there are 18 languages in the country), the establishment of a low-cost network of data transmission, and the installation of a new broadcasting network for the administration.

9475
CSO: 5500

PROTECTION FROM JAPANESE COLOR TV IMPORTS SOUGHT

Paris LE MATIN in French 29 Mar 80 p 6

/Article by Olivier Peretie/

/Text/ The European color television market is providing a favorite battleground for Japanese industries. For years their strategy of encirclement has threatened to cause the disappearance of the European manufacturers. Today once again, Videocolor, the second manufacturer of color television tubes on the old continent, is calling for protectionist measures.

"The only thing I expect to get from Brussels is Extreme Unction!" Abel Farnoux, the fiery chairman of the board of Videocolor, the joint subsidiary established by the French Thomson, the German AEG-Telefunken, and the American RCA, made this remark without a smile. For at least 4 years, he has been knocking on all the doors of Community officials, sending off alarm signals about the Japanese threat that hangs over the European color television industry.

His reasoning doesn't bother with any nuances. According to Farnoux, Japan is at war. In color television, the figures speak for themselves. The Japanese domestic market for television, which "shows life as it is," has stabilized at around 6.5 million sets. But the manufacturers in the Far East are today producing 16.5 million color tubes. For a television set, the tube plays the same role as the engine in a car. It produces the picture. So Japan is exporting nearly 10 million tubes, of which 2 million are going to West Europe and 470,000 are going to France--a third of the national market. The strength of Matsushita (5 million tubes by itself), Hitachi, Sony, Toshiba, etc. is related more to their high level of productivity than to the iron protectionism they rely on in Japan itself.

The recent past has shown that when a company manufactures the tube, it soon manages to sell the complete TV set. Today Great Britain has practically no national color TV industry left. And Germany is threatened as well.

The European manufacturers have made alliances among themselves, but without any coordination. Philips, the leader in the tube industry, has over 40 percent of a market of 11 million sets. It has drawn Grundig into its orbit, which had been very close to the Japanese. Videocolor, number two, which holds 30 percent of the market, has taken a firm position. With the aid of its former majority stockholder, Thomson, it has bought back the tube division from the giant AEG-Telefunken. Today Videocolor supplies tubes for the television sets made by Thomson, Normende, Telefunken, Blaupunkt, and soon possibly SABA, if Thomson does actually buy it back from the American firm GTE. Now they have to get closer to ITT and above all, Siemens.

This industrial intermingling is for the time being the only response of the Europeans to the Japanese "kriegspiel." Abel Farnoux would also like a shield. In other words, he would like Brussels to impose import quotas on the Japanese. But so far, no one is listening to him.

7679
CSO: 5500

OFFICIAL: IF NORDSAT REJECTED, TV SATELLITE POSSIBLE

Oslo AFTENPOSTEN in Norwegian 11 Apr 80 p 5

> [Text] Norway is studying its own future TV satellite as a possibility in case the Nordic TV satellite Nordsat is not accepted, said Undersecretary Halvdan Skard of the Ministry of Church and Education in a speech at Sormarka yesterday. He said the TV-2 program in Norway will be a reality sooner than many think. Our own satellite would in any case be less expensive than to construct a new ground network.

Then we would have a situation where not only Norway, including the oil platforms and Svalbard, but also parts of east Scandinavia would be covered by Norwegian TV.

Later, one could expect that programs of a more local character would be sent over the ground network, while another program went over the satellite. That would of course make it more expensive, but from a Norwegian standpoint cheaper than a Norwegian TV-2 or comprehensive regional TV network, said Skard. Other possibilities for expanded development of Norwegian TV through Nordsat should be of consequence when the arguments for and against are weighed.

The Nordsat report gave rough cost figures for a ground network which would give the same results as a satellite system. As explained in the report, these alternatives are seen as uninteresting, uneconomical, and not feasible. On the other hand, it should be remembered that all countries now having ground networks must expect to have to maintain the ground net also if satellite broadcasting comes.

"The owner country will naturally have a special interest in the technology for its own national satellite and eventually the use of it, so that we would not allow foreign countries to pay for the entire project. We are certain of that," said Skard.

Undersecretary Skard disclosed this information at a conference on Nordsat of the AOF [Labor Information Association] currently being held in Sormarka.

Skard said that Nordic radio and TV cooperation must now be developed further regardless of whether we intend to work for a Nordsat solution or not. If such cooperation develops parallel with Nordsat, or if it develops outside Nordsat, Skard believes that radio and TV cooperation must be continuously strengthened. He maintained that one or another form of satellite transmission in the Nordic countries is probable, regardless of the status of the Nordsat project.

"In case Nordsat is not accepted, I believe we will realize that it is possible to have TV satellites in the Nordic countries, alone or together," said Undersecretary Skard. "I believe that rejection of Nordsat would be a serious step backward in Nordic cooperation. I believe that TV satellite broadcasting will be used, here as in other parts of the world. The outstanding thing has been that the Nordic countries have asked for and received permission to combine their satellite transmitters in a common satellite, a common endeavor."

Skard believes that Nordsat will contribute to the fulfillment of an important cultural goal: an equal offering to all, wherever one lives. He considers it important to eliminate the difference which causes one-third of Norway's people to be able to receive Swedish programs, while the rest of the country does not have this possibility. Nordsat cooperation will mean that a varied and equal radio and TV offering will be available in all parts of the country.

Skard said that the possibility for large portions of Scandinavia to receive West German satellite transmissions is not remote.

"But when major portions of Scandinavia are able to receive at least a West German satellite transmission in the middle of the 1980's, people will realize that there is a technical capability for a more comprehensive TV offering," said Skard. "The offering will probably be entirely or partly commercially financed.

"It is very probable that Norwegian viewers will obtain receiving equipment for such transmissions, at least for group viewing. I have difficulty in imagining that in such a situation there would be strong political opposition to the Nordsat project, quite the contrary. But by then it could be too late," said the undersecretary.

9287
CSO: 5500

PAPER REGRETS RADIO SERVICES REJECTION OF NORDSAT

Oslo AFTENPOSTEN in Norwegian 15 Apr 80 p 2

[Editorial: "The Battle Over Nordsat"]

[Text] Gradually most of us come to realize that fine speeches about Nordic cooperation are not always--nor necessarily--to be interpreted as gullible Norwegians may have thought. If it were so we would surely have progressed farther along the cooperative path. Unfortunately the desire for constructive progress of significant importance for the Nordic people often seems to be inversely proportional to the big words. Therefore it hardly comes as a surprise when it is now reported from Stockholm that the Norwegian Broadcasting System is alone among the Nordic radio and TV services to approve the Nordic TV satellite Nordsat. The management of the Swedish Broadcasting System has decided to oppose the plan, apparently because it would be too expensive, and the Finnish and Icelandic delegations are of the same opinion. The Danish authorities are expected to join them.

Before the final decision on the Nordsat project there is therefore much evidence that the Nordic governments--with the exception of the Norwegian--are going to vote against Nordsat. Myopic and shortsighted considerations of profit threaten to overshadow that which should be to the Scandinavian people the most important argument--that establishing a Scandinavian TV satellite would strengthen the feeling of Nordic solidarity in the consciousness of the Nordic people.

We have previously recommended this project, and we have done so from the cultural motivation that we cannot have constraints on free information in our part of the world. A cultural prohibition which obstructs the free flow of information is the last thing we would choose, and we would be very mistaken if this judgment were not shared by most people.

Nordsat cooperation means equal radio and TV offering to all parts of Scandinavia. For Norway's part this means to eliminate the difference which makes it possible for one-third of the people to be able to receive Swedish TV programs, while the rest of the country does not have this capability. This extra program offering is gratefully received by most people. In any case they are reluctant to give it up when they have once experienced what it can give. We remember well the "national catastrophe" which took place shortly after Christmas when some Norwegians no longer had access to Swedish TV-1 and -2 because the Sunne transmitter had blown down.

There are hardly any durable cultural objections to Nordsat, and the technical and practical problems will be considerably less than supposed. This is confirmed in the memorandum by Torolf Elster, chief of Norwegian Broadcasting.

We believe that it is also correct to judge the Nordsat project from the standpoint that large sections of Norway will soon be able to receive both West German and French satellite transmissions. In case there is fear of a western cultural imperialism, we agree with those who claim that in pure self-defense we should advocate a larger Nordic contribution. This would make it possible for us to insist that we are better and more worthy in both breadth and quality, at the same time as we fulfill the expectations which have been built up through the years in the Nordic people.

The eventual abandonment of the Nordsat project would be a serious step backward in Nordic solidarity.

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CSO: 5500

NORWAY

BRIEFS

TELETYPE MACHINES FROM SIEMENS--Oslo, 18 Apr--The world's teletype network is steadily becoming more dense, and as of today more than one million machines are in use, of which about half have been delivered by Siemens. The Telecommunications Administration has recently ordered 2,000 additional electronic teletypewriters from Siemens, and this is the largest order that the firm has received for this equipment in Norway. The teletypewriters will be delivered over a 2-year period. The order comes in the transition period now taking place from mechanical to electronic teletypewriters. They are delivered with electronic storage, which makes it possible to send or receive messages simultaneously while writing on the machine. In addition perforated tape equipment can be attached. From mid-1981 the teletypewriters will be equipped with editing screen and floppy-disk. [Text] [Oslo NORGES HANDELS-OG SJOFARTSTIDENDE in Norwegian 18 Apr 80 p 10] 9287

CSO: 5500

HIGH-SPEED INTERCOMPUTER DATA TRANSMISSION BY SATELLITE

Paris ZERO UN INFORMATIQUE HEBDO in French 17 Mar 80 p 32

[Article by Marielle Stamm]

> [Text] During a ceremony bringing together numerous personalities, the ECNR [European Council for Nuclear Research] inaugurated an epoch-making experiment in the history of European teleprocessing. ECNR physicists exchanged scientific data with their colleagues from the British laboratory of Rutherford at a very high speed (of the order of a megabit), through the OTS [Orbital Test Satellite] European satellite.

The Stella experiment is interesting for two reasons: On the one hand, it will permit the determination of users' demands in matters of high-speed data transmissions; on the other hand, it will serve to measure the performance of this type of transmission and the error rates obtained in function of the operating conditions.

Three Partners

Three partners share the responsibility for such an operation. First is the European Space Agency [ESA], which is studying the different applications of satellite communications with the help of the OTS satellite.

Launched in 1978, OTS has a polyvalent narrow-band telecommunications module which will be used mainly to experiment with digital data transmission between small earth terminals.

Then, there is the Commission of European Communities, which contributes financially (420,000 account units) to the experiment in the framework of developing specific data-processing applications.

Finally, the ECNR, which has set up all the data processing aspects of the implementation. The practical experience already developed by its specialists in the usage of computer networks and in high-speed data transmission within these networks makes the large Center for Subnuclear Physics Research a privileged "guinea pig" user for this type of experiment.

The ECNR and the laboratory with which it is working, Rutherford, are equipped with configurations involving different equipments.

ECNR Data Processing Developments

First of all, there is an earth station, transmitter-receiver unit, operating in a new range of frequencies, 11 to 14 GHz [gigahertz].

Having a three-meter-diameter antenna, it is controlled by a linkage control system (LDC) in a Nord minicomputer, through a special communications interface module called CIM.

The data to be transmitted is temporarily stored on magnetic tape in the LDC, which registers it in turn on the band in the receiving station. This tape reel serves also to register transmission errors.

At ECNR, the data comes from computers carrying out physics experiments through an in-house high-speed network (Cernet) which connects the computers at the site.

In the same way, in the Rutherford laboratory, the controlling computer is connected to the Ethernet local network. Thus, the linkage through the Stella satellite connects two in-house computer networks of quite different characteristics.

ECNR researchers fully developed the CIM interface module for the benefit of all the participating laboratories. It involves a microprocessor which, at the time of transmission, converts the data blocks according to the HDLC [high-level data link control] procedure and transmits them to the earth station.

The CIMs differ according to the make of the minicomputers installed in the different laboratories. Another interesting development concerns the logic which was redone by the British laboratory in BCPL transportable language. This language is available in many types of computers and its usage helps to avoid duplication of efforts.

Speeds of the Order of a Megabit per Second

The Stella experiment has two objectives: first, to evaluate experimentally transmission of data at the rate of a megabit per second, which approaches the speed of the computer. Current telephone transmissions are much slower, of the order of a kilobit per second (an average of 1,200 to 9,600 bauds).

Inquiries by means of questionnaires will help to determine future users' needs for this type of transmission.

ECNR itself estimates that there will be considerable time savings. Transmission of data in large volumes currently needs redhibitory telephone transmission time.

Extremely Low Error Rates

The other aim of the experiment is to measure performance and achieve extremely low error rates. The error rate sustained should not exceed one bit for 10^9 or 10^{10} bits transmitted. This result is decidedly superior to the performance of PTT [postal and telecommunications] lines or normal satellite systems.

To achieve this, the data is coded duplicating the number of bits transmitted. Satellite linkage is thus carried out at two megabits per second while the real speed of the data is only one megabit per second. This 100 percent redundance permits the usage of very powerful error correction techniques which reduce by a factor of 10,000 or more the overall error rate. A coder, called Linkabit, assures this function.

After the Rutherford laboratory, other research centers will participate in the experiment: Desy in Germany, INFN [National Institute for Nuclear Physics] in Italy, Saclay in France, the University College of Dublin, and the Technical University of Graz in Austria. The experiment will really be spread out over a 2-year period. It involves the highest chiefs of European PTT administrations. The earth stations will initially be placed under the responsibility of the national administrations, which in this way will acquire experience in the management of new satellite communications services.

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CSO: 5500

END

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WORLDWIDE REPORT: Epidemiology
WORLDWIDE REPORT: Law of the Sea
WORLDWIDE REPORT: Nuclear Development and Proliferation
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